

ABSTRACT OF THE DISCLOSURE

A method and apparatus for non-destructive testing and evaluation of part samples includes obtaining a defect image of the sample, displaying the defect image on a display, referencing the defect image, such as through marking or annotation, to highlight locations at which defects or measurements are found, superimposing the defect image onto a live image of the part, and physically marking/annotating the part, tracing the marks from the defect image onto the physical sample, while viewing the live image. Because both the defect image and the live image are viewed through the same camera lens and are therefore subject to the same amount of distortion, the actual sample can be marked exactly according to the marks made in the defect image; there is no need to attempt matching a distorted defect image with the physical sample, as has been done in the prior art. This one-to-one correspondence between the defect image and the live display enables precise marking of the physical sample since the user looks at the distorted live image of the sample, not the physical sample itself, during the marking process. The method is particularly useful for detecting subsurface defects in a sample via thermographic techniques.

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